

What is claimed is:

- 1 1. A silent chain for restraining chordal action and improving noise and oscillation
2 performance comprising:
 - 3 a plurality of link plates interleaved in rows, each link plate having a pair of
4 teeth, each tooth of the pair of teeth having an inside flank and
5 outside flank;
 - 6 the inside flank and the outside flank being formed such that when the
7 chain is pulled straight the inside flank of a first link plate in a link
8 row projects relative to the outside flank of a second link plate in
9 another link row adjacent to and overlapping with the link row,
10 satisfying a relationship $0.021*P \leq \delta_{max} \leq 0.063*P$, where P is a
11 chain pitch and δ_{max} is a maximum projection of the inside flank of
12 the first link plate relative to the outside flank of the second link
13 plate.
- 1 2. The silent chain of claim 1, wherein the inside flank and the outside flank are
2 formed such that $0.035 \leq P * \delta_{max} \leq 0.063 * p$ is satisfied.
- 1 3. The silent chain of claim 1, wherein the outside flank is formed of a flat surface and the
2 inside flank is formed of a circular arc surface.
- 1 4. The silent chain of claim 1, wherein the link plates further comprises a first link plate
2 having a first maximum projection δ_{1max} and a second link plate having a second
3 maximum projection δ_{2max} , different than the first maximum projection δ_{1max} ,
4 wherein the first link plate and the second link plate are in a random pattern along
5 the length of the chain.
- 1 5. The silent chain of claim 1, wherein the link plates further comprises a first link
2 plate having a first chain pitch P_1 and a second link plate having a second
3 chain pitch P_2 , different than the first chain pitch P_1 , wherein the first link
4 plate and the second link plate are in a random pattern along the length of
5 the chain.